

CLEAN VERSION OF ABSTRACT

**COMPOSITION, APPARATUS, AND METHOD OF
CONDITIONING SCALE ON A METAL SURFACE**

ABSTRACT OF THE DISCLOSURE

A composition and apparatus and method for aqueous spray conditioning of scale on metal surfaces. An aqueous solution having a base composition of an alkali metal hydroxide is used. The aqueous solution may contain additives to improve the performance of the salt. In one embodiment, the solution is used to condition the scale on a strip of stainless steel. The strip of steel is at a temperature between the melting point of the alkali metal hydroxide in anhydrous form and a temperature at which the Leidenfrost effect appears. One or more nozzles is provided to spray the solution, and the heated strip is passed by the nozzle or nozzles where the solution is sprayed on the surface or surfaces of the strip that have the scale or oxide. The invention also includes the apparatus and control thereof for the spraying of the solution.